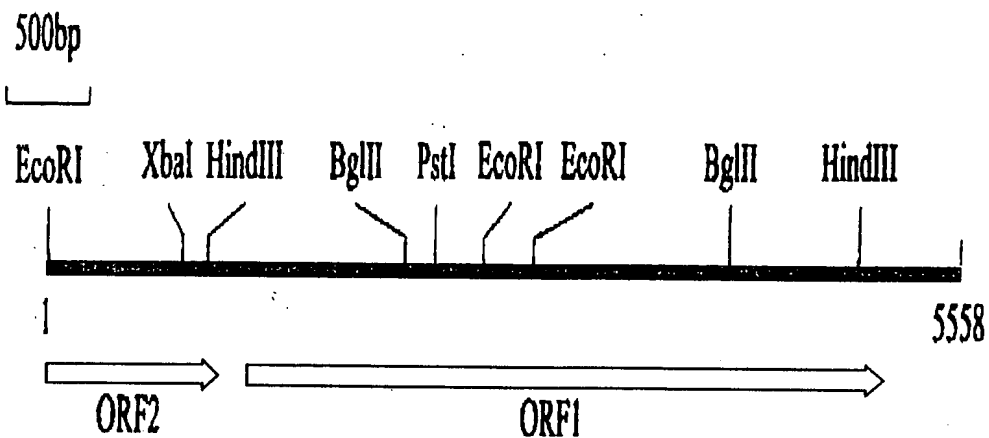


Fig 1



a)

PCR

b)

inverse PCR

c)

EcoRI BglII EcoRI HindIII
clone 1 clone 2

d)

PCR

inverse PCR

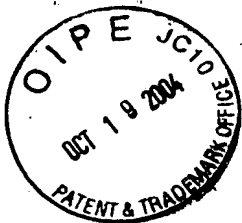
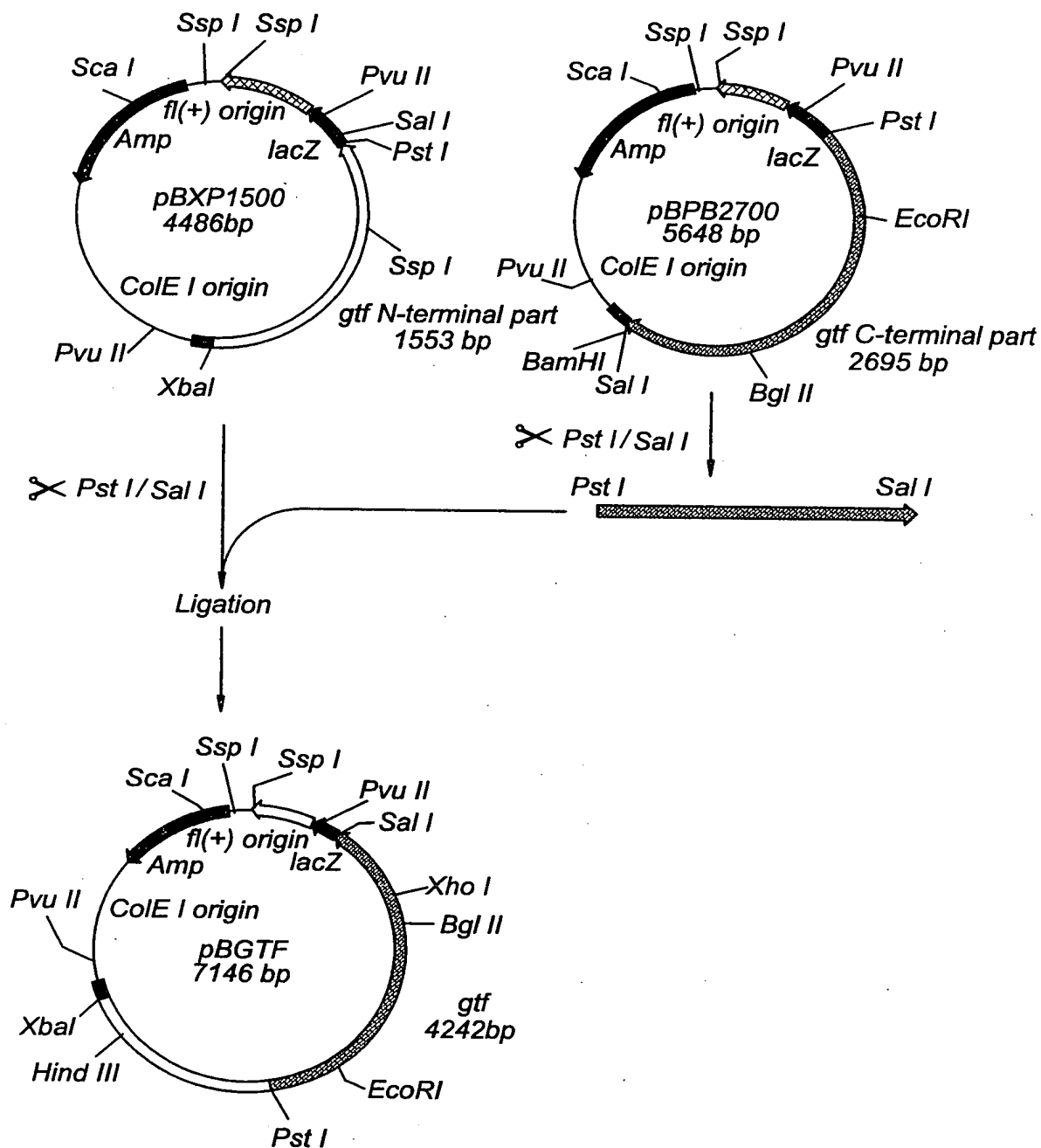


Fig 2



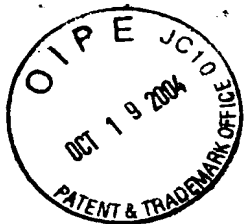
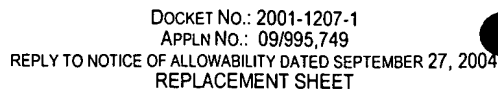


Fig. 3.1

◇ ↓ ∇∇

GTFD	LLANDIDNSNPVVQAEQLNWLHYLMNYGSIVANDPEANFDGVRVDAVDNVNADLLQIASD	480
DSRS	LLANDVDNSNVVVEAEQLNWLHYLMNFGTITANDADANFDGIRVDAVDNVADLLQIAAD	576
ASR	LLANDIDNSNPVQAEQLNWLHYLMNFGSITGNNDNANFDGIRVDAVDNVADLLKIAGD	650
GTFA	LLANDIDNSNPVVQAEQLNWLHYLLNFGTITANNDQANFDSVRVDA <u>PDN</u> <u>IDADLM</u> <u>NIAQD</u>	509
***** . ***** * . * . * * * * . ***** * . * . * * *		
AS	262QWDLN ₂₆₆	.290IVRMDAVAFI ₂₉₈
	-----H3-----	--E4- -----H4--
↓∇∇∇		
GTFD	YLKAHYGVDKSEKNAINHLSILEAWSNDNPQYNKDTKGAQLPIDNKLRLSLLYALTRPLE	540
DSRS	YFKLAYGVDQNDATANQHLSILEDWSHNDPLYVTDQGSNQLTMDDYVHTQLIWSLTK--S	634
ASR	YFKALYGTDKSDANANKHLSILEDWNGKDPQYVNQQGNAQLTMDYTVTSQFGNSLTHGAN	710
GTFA	YFNAAYGMD-SDAVSNKHINILEDWNHADPEYFNKIGNPQLTMDDTIK----NSLNHGLS	564
* * * * . . * . * * * * * * * * . * . * . .		
	-----E5--	---H5----- ---E6--
GTFD	KDASNKNEIRSGLEPVITNSLN-----NRS AEGKN SERMANYIFIRA	582
DSRS	---SD---IRGTMQRFVDYYMV-----DRSNDSTENEAI PNYSFVRA	660
ASR	N-RSN----MWYFLDTGYLLNGDLNKKIVDKNRPN SGT LVNRIANS GDTKVIPNYSFVRA	765
GTFA	D-ATN----RWGLDAIVHQS-----LADRENNSTENVVIPNYSFVRA	601
* . * * * . * *		
AS		396FVRS
	-----H6-----	--E7--

AS HD₄₀₁

AS 488GLPRIYLG D496

H7-

-E8-

GTFD	IVNMGAAHKNQEYRPLLLTTKDGLTSYTSDAAAKSLYRKTND-----K-GELVFD	805
DSRS	TLHMGAAHKNQAYRALLSTTADGLAYYDTDENAPVAYTDAN-----GD LIFT	869
ASR	TLHMGKAHKNQLYRALVLSNDSGIDVYDSDDKAPTLRTNDNGDLIFHKTNFTFVKQDGTII	1002
GTFA	VLHMGAAHKNQQYRAAVLTTTGDVINYTSQQGAPVAMTDENGDLYLSSHNLVVNGK-EEA	824
	..** ***** ** . . . * . * . * . *	

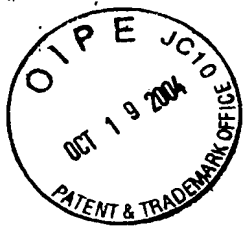


Fig. 3.3

GTFD ASDIQGYLNPQVSGYLAVWVPVGASDNQDVRVAASNKANATG-QVYESSSALDSQLIYEG 864
DSRS NESIYGVQNPQVSGYLAVWVPVGAQQDQDARTASDTTNTSD-KVFHSNAALDSQVIYEG 928
ASR NYEMKGSNLALISGYLGWVPVGASDSQDARTVATESSSNDGSVFHSNAALDSNVIYEG 1062
GTFA DTAVQGYANPDVSGYLAVWVPVGASDNQDARTAPSTEKNSGN-SAYRTNAAFDSNVIFEA 883

. * * . ***** * * * . . . * * * . *

-E1-

GTFD FSNFQDFVTKDSYTNKKIAQNVQLFKSWGVTSEFEMAPQYVSSDGE-----SFLDSIIQN 919
DSRS FSNFQAFATDSSEYTNVIAQNADQFKQWGTSEFQLAPQYRSSTDTE-----SFLDSIIQN 983
ASR FSNFQAMPTSPEQSTNVVIATKANLFKELGITSFELAPQYRSSGDTNYGGMSFLDSFLNN 1122
GTFA FSNFVYTPTKESERANVRIAQNADEFFASLGFTSEFEMAPQYNSSKDR-----TELDSTIDN 938

**** * . * ** * * * * . ***** * * * . ***** . *

AS

¹³⁴GLTYLHLM_{P142}

---H1---

--E2-

GTFD GYAFEDRYDLAMSKN--N----KYGSQQDMINAVKALHKSGIQVIADWVPDQ 965
DSRS GYAFTDRYDLGYGTP--T----KYGTADQLRDAIKALHASGIQAIADWVPDQ 1029
ASR GYAFTDRYDLGFNKADGNPNPTKYGTDQDLRNAIEALHKNGMQAIADWVPDQ 1174
GTFA GYAFTDRYDLGMSEP--N----KYGTDEDLRNAIQALHKAGLQVMADWVPDQ 984

**** * * * . * . * * * * . * . * * * * * . *

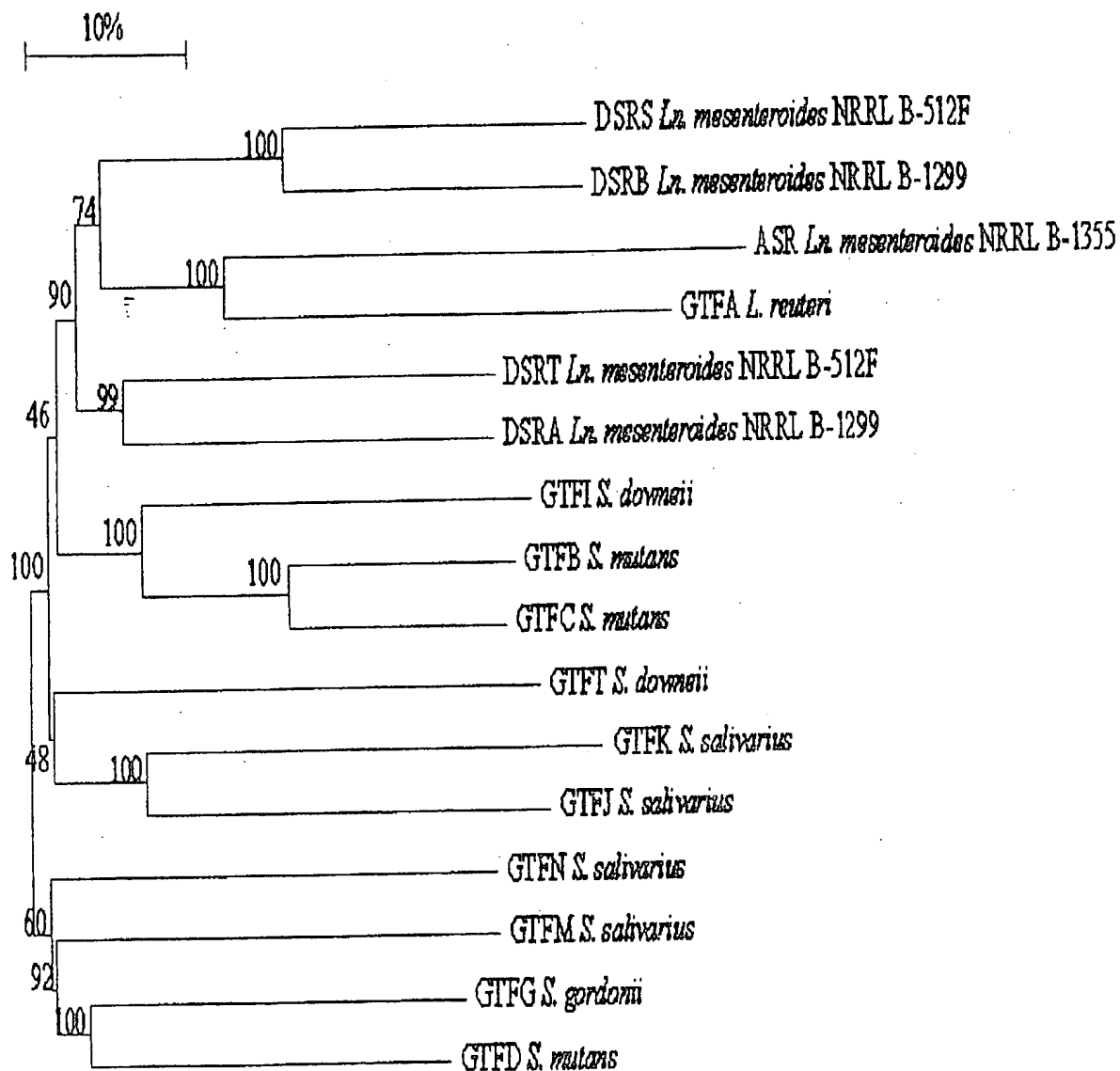
AS

¹⁹⁰DFITNH₁₉₅

-----H2----- ---E3---



Fig. 4



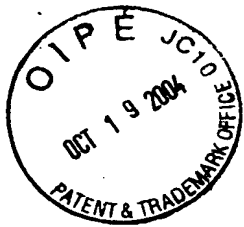


Fig. 4.1

◇ ↓ ∇∇

GTFD	LLANDIDNSNPVVQAEQLNWLHYLMNYGSIVANDPEANFDGVRVDAVDNVNADLLQIASD	480
DSRS	LLANDVDNSNVVVEAEQLNWLYYLMNFGTITANDADANFDGIRVDAVDNVADLLQIAAD	576
ASR	LLANDIDNSNPVQAEQLNWLHYLMNFGSITGNNDNANFDGIRVDAVDNVADLLKIAGD	650
GTFA	LLANDIDNSNPVVQAEQLNWLYYLLNFGTITANNDQANFDSVRVDAFDNIADLMNIAQD	509
	***** .***** .*.***** **.*.*.* * ***** .***** ** .***. ** *	
AS	²⁶² QWDLN ₂₆₆	²⁹⁰ IVRMDAVAFI ₂₉₈
	-----H3-----	--E4- -----H4--
	↓∇∇∇	
GTFD	YLKAHYGVDKSEKNAINHLSILEAWSNDPQYNKDTKGAQLPIDNKLRLSLLYALTRPLE	540
DSRS	YFKLAYGVDQNDATANQHLSELEDWSHNDPLYVTDQGSNQLTMDDYVHTQLIWSLTK--S	634
ASR	YFKALYGTDKSDANANKHLSILEDWNGKDPQYVNQOGNAQLTMDYTVTSQFGNSLTHGAN	710
GTFA	YFNAAYGMD-SDAVSNKHINILEDWNHADPEYFNKIGNPQLTMDDTIK----NSLNHGLS	564
	* ** * . . *.*** * ** * ** .* . .*. .	
	-----	-E5-- ---H5--- ---E6--
GTFD	KDASNKNEIRSGLEPVITNSLN-----NRSAEGKNSERMANYIFIRA	582
DSRS	---SD---IRGTMQREFVDYYMV-----DRSNDSTENEAIIPNYSFVRA	660
ASR	N-RSN---MWYFLDTGYLLNGDLNKKIVDKNRPNSGTLVNRIANSKGTQVIPNYSFVRA	765
GTFA	D-ATN---RWGLDAIVHQS-----LADRENNSTENVVIPNYSFVRA	601
		* . ** *.***
AS		³⁹⁶ FVRS
	-----H6-----	--E7--

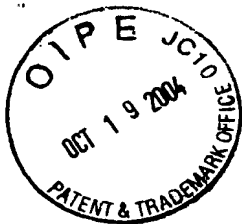


Fig.4.2



GTFD HDSEVQTVIAKIIKAQINPKTDGLTFTLDELKQAFKIYNEDM--RQAKKKYTQSNIPTAY 640
DSRS HDSEVQTVIAQIVSDLYPDVENS LAPTTEQLAAAFKVYNEDE--KLADKKYTQYNMASAY 718
ASR HDYDAQDP IRKAMIDHGI IKNMQDTFTFDQLAQGMEFYKQENPSGFKKYNDYNLPSAY 825
GTFA HDNNSQDQIQNAIRDVTGKD--YHTFTFEDEQKGIDAYIQDQ-N-STVKKYNLYNIPASY 657
* * * * *

AS HD₄₀₁

----H7-

GTFD ALMLS NKDSITRLYYGDMYSDDGQYMATKSPYYDAIDTLLKARIKYAAGGQDMKIT YVEG 700
DSRS AMLLTNKDTVPRVYYGDLYTDDGQYMATKSPYYDAINTLLKARVQYVAGGQ----- 769
ASR AMLLTNKDTVPRVYYGDMYLEGGQYMEKGTIYNPVISALLKARIKYVSGGQTMATDSSGK 885
GTFA AILLTNKDTIPRVYYGDLYTDGGQYMEHQTRYD TLNLLKSRVKYVAGGQSMQTMSVG- 716
* . . * . * . . * . * . . * . * . . * . * . . *

AS ₄₈₈GLPRIYLG D₄₉₆

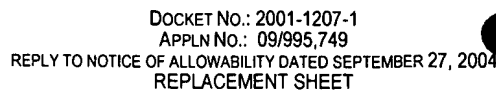
H7-

--E8-

-----H8-----

GTFD DKSHMDWDYTGVLTSVRYGTGANEATDQGSEATK----TQGMVITSNNPSLKL NQNDKV 756
DSRS ---SMSVDSNDVLTSVRYGKDAMTASDTGTSETR----TEGIGVIVSNNAE LQLEDGHTV 822
ASR DL---KDGETDLLTSVREFGKGIMTSDQTTTQDNSQDYKNQGIGVIVGNNPDLKL NNDKTI 942
GTFA -----GNNNILT SVRYGKGAMTATDTGTDETR----TQGIGVVVSNTPNLKLGVNDKV 765
* . . * . * . . * . * . . * . * . . *

GTFD IVNMGAAHKNQEYRPLLLTTKDG LTSYTSDAAAKSLYRKTND-----K-GELVFD 805
DSRS TLHMGAAHKNQAYRALLSTTADGLAYYDTDENAPVAYTDAN-----GD LIFT 869
ASR TLHMGAHKNQLYRALVLSNDSGIDVYDSDDKAPTLRTNDNGDLIFHKTNTFVKQDGTII 1002
GTFA VLHMGAAHKNQQYRAAVLT TTDGVINYTS DQGAPVAMTDENGDLYLSSHNLVVNGK-EEA 824
* . . * . * . . * . * . . *



GTFD	ASDIQGYLNPQVSGYLAVWVPVGASDNQDVRVAASNKANATG-QVYESSSALDSQLIYEG	864
DSRS	NESIYGVQNPQVSGYLAVWVPVGAQQDQDARTASDTTNTSD-KVFHSNAALDSQVIYEG	928
ASR	NYEMKGSNLALISGYLGVWVPVGASDSQDARTVATESSSNDGSVFHSNAALDSNVIYEG	1062
GTFA	DTAVOGYANPDVSGYLAVWVPVGASDNQDARTAPSTEKNSGN-SAYRTNAAFDSNVIFEAF	883

-E1-

GTFD	FSNFQDFVTKDSDYTNKKIAQNVQLFKSWGVTSEMAPQYVSS	EDG-----SFLDSIIQN	919
DSRS	FSNFQAFATDSSEYTNVVIAQNADQFKQWGVTSFQLAPQYRS	STD-----SFLDSIIQN	983
ASR	FSNFQAMPTSPEQSTNVVIATKANLFKELGITSFELAPQYRSS	SGDTNYGGMSFLDSFLNN	1122
GTFA	FSNFVYTPTKESERANVRIAQNADFFASLGFTSFEMAPQYNSS	KDR-----TFLDSTIDN	938

AS

134GLTYLHLMP142

--H1--

--E2-

GTFD	GYAFEDRYDLAMSKN--N----	KYGSQQDMINAVKALHKS	GIQVIADWVPDQ	965
DSRS	GYAFTDRYDLGYGTP--T----	KYGTADQLRDAIKALHAS	GIQAIADWVPDQ	1029
ASR	GYAFTDRYDLGFNKADGNPNPT	KYGTDQDLRNAIEALHKNGM	QAIADWVPDQ	1174
GTFA	GYAFTDRYDLGMSEP--N----	KYGTDEDLRNAIQALHKAGL	QVMADWVPDQ	984

AS

190DFITNH195

-----H2-----E3-----



Fig.5

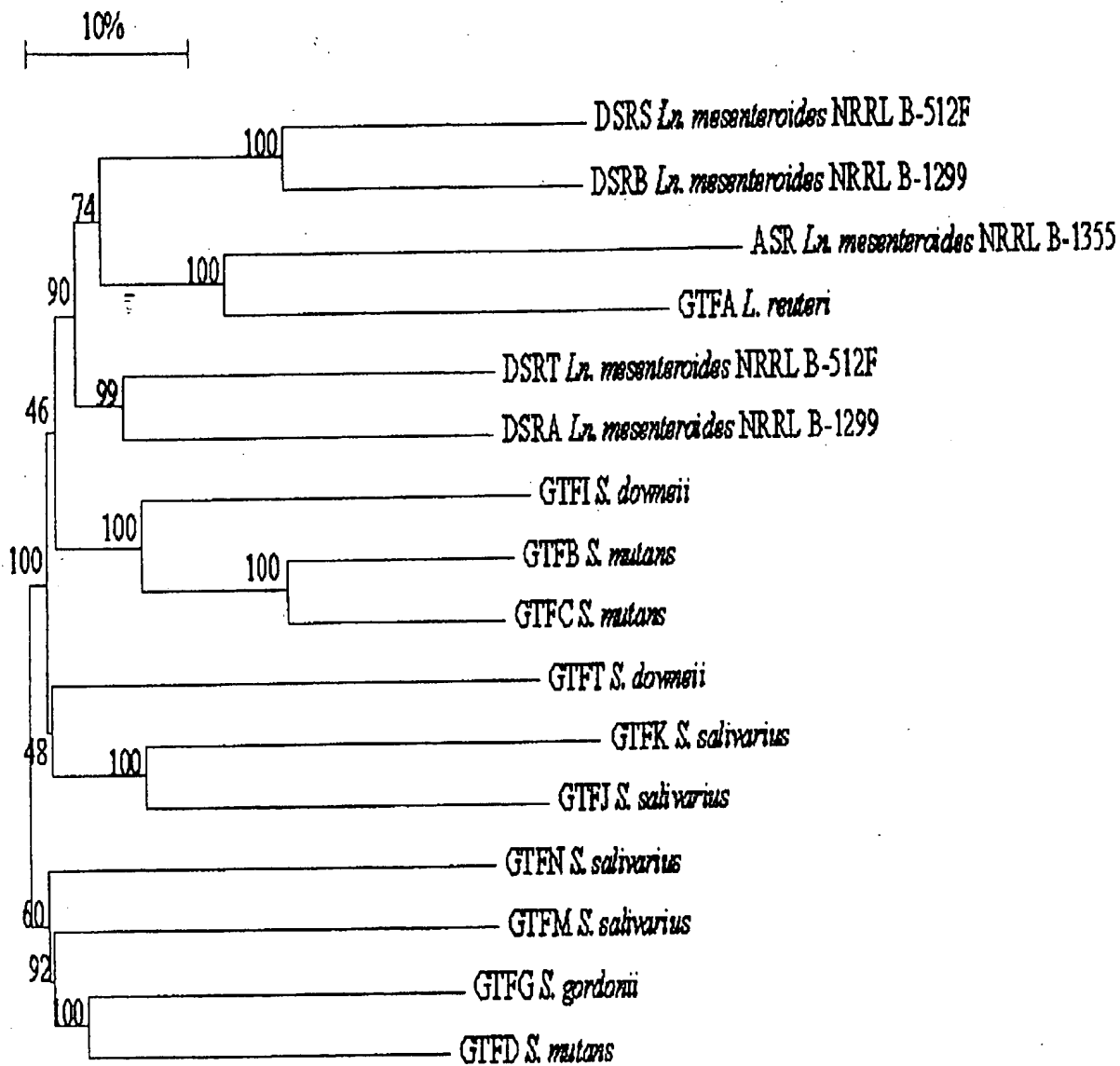
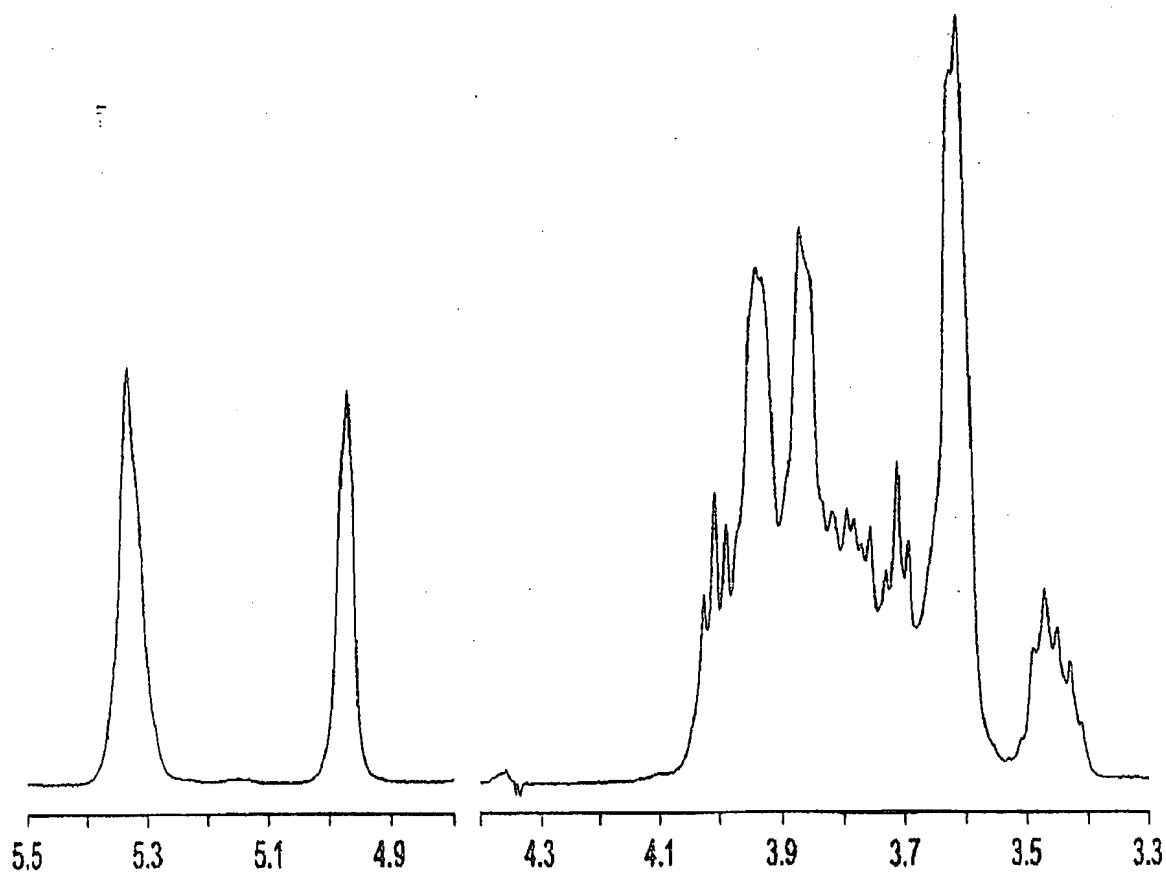




Fig. 5a



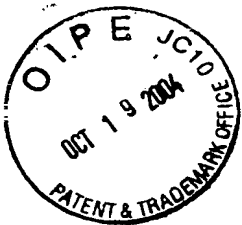


Fig. 5b

